Federal Deposit Insurance Corporation • Center for Financial Research

Working Paper Series

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Published in *Financial Markets, Institutions and Instruments* 24, (2015): 349-389.

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FDIC CFR WP 2014-04

fdic.gov/cfr

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July 2014

ABSTRACT

In this paper, we demonstrate how the resolution costs associated with over 1,000 bank failures from 1986 to 2007 are distributed across the method of resolution, bank size, regulatory periods, and the existence of fraud. In addition, we document the time spent in the resolution by the resolution method and legislative period. Finally, we show how various classes of claimants against the failed banks bear the costs of the failure.

JEL Classifications: G21, G28, G33

Keywords: bank failures, bank resolution costs, FDIC receivership, fire sales, banking crises

Opinions expressed in this paper are those of authors' and not necessarily those of the FDIC.

[1] We are grateful to Art Murton for his guidance and extensive input throughout this project. We also thank Karen Flynn for letting us share her expertise on the FDIC accounting system, Lynn Shibut and Jack Reidhill for answering many questions, Philip Shively for his contribution in early stages of the project, and Abhinav Kapur for his research assistance. Naturally, we assume responsibility for all the errors.

I. Introduction

In the United States 2,427 depository institutions failed from 1986 to 2007. Out of these 1,244 of them with $216.4 billion in assets were placed into a Federal Deposit Insurance Corporation (FDIC) receivership for resolution.[2] As of year-end 2013, the FDIC estimates that the total cost to the deposit insurance funds of resolving these BIF- and DIF-insured failed banks is around $30 billion. We provide an analysis of this extended and costly experience using classes of the population of bank failures that were resolved and terminated by the FDIC during the 1986 to 2007 period. This analysis is important because understanding the different dimensions of these costs is a critical input for effective resolution planning.

The standard definition of resolution cost is the difference between the liabilities of the failed bank and the market value of its assets net of expenses. We decompose the resolution cost of bank failures into three major categories—losses incurred on the disposition of the assets of the failed bank, direct expenses, and indirect expenses incurred by the FDIC to resolve these failures. We demonstrate how resolution costs are distributed across the method of resolution, bank size, regulatory periods, and the existence of fraud. In addition, we document the time spent in the resolution by the resolution method and legislative period. Finally, we show how various classes of claimants against the failed banks bear the costs of the failure.

[2] The remainder of the failures is thrift institutions, which were insured by Federal Savings and Loan Insurance Corporation (FSLIC) or Saving Association Insurance Fund (SAIF) or resolved by the Resolution Trust Corporation (RTC). We focus on Bank Insurance Fund (BIF)- and Deposit Insurance Fund (DIF)-insured institutions. Throughout the paper we refer to them as banks.

Our sample consists of 1,213 of the 1,244 banks that failed during the 1986 to 2007 period. We consolidate the individual bank failures under their respective holding company name. This consolidated sample has 1,092 failures. We find that the banks have an average ratio of the book value of equity to assets on the last Call Report of negative 1.36 percent in the consolidated sample. The average discounted loss on the disposition of assets as a percent of total assets is 23.38 percent. The mean ratio of discounted receivership expense to assets is 12.02 percent, of which 3.49 percent is the average ratio of discounted direct receivership expenses to assets. As a result, the average discounted total resolution cost to asset ratio is 33.18 percent. In other words, an average failed bank during 1986-2007 has a negative market value of equity that is about one-third of the book value of its assets.

There is considerable time-variation in these ratios. For example, the average ratio of discounted total resolution costs to assets is 39.82 percent for the failed institutions prior to the enactment of the Financial Institutions Reform, Recovery and Enforcement Act (FIRREA) in 1989. In contrast, this ratio significantly declines to 22.92 percent during the period that follows the passage of the Federal Deposit Insurance Corporation Improvement Act (FDICIA) of 1991.

The FDIC uses a number of methods to resolve failed banks including deposit payoffs, insured-deposit transfers, purchase and assumption (P&A) agreements, whole-bank transactions, and open-bank assistance. The primary difference between the methods is whether the FDIC assumes and liquidates the failed-bank assets (deposit payoffs) or leaves most or all of the failed-bank assets in the private sector (P&A agreements, whole bank transactions, and open-bank assistance). Univariate tests show

that the average ratio of discounted resolution costs to assets for deposit payoffs, 36.74 percent, is statistically different than that for P&A methods, 34.63 percent.

Our results show that large banks that fail have higher capital ratios at failure, lower loss on assets, and lower receivership expenses than small banks. We find no univariate evidence that failures caused by fraud have higher total resolution costs. Finally, the average time of resolution is about five years, which is roughly twice as long as a typical non-financial bankruptcy.

The remainder of this paper is organized as follows. Section 2 describes the number and types of failures over the 1986 to 2007 period. Section 3 provides our definition of resolution costs and section 4 describes the components of resolution costs. Section 5 describes the patterns of resolution costs across different resolution methods. Section 6 looks at resolution costs across different size categories. Section 7 describes the patterns of resolution costs across different legislative periods. Section 8 describes some measures of fraud for failed banks and shows the pattern of resolution costs across these different measures of fraud. Section 9 evaluates how the time in receivership varies over different resolution types and legislative periods. Finally, Section 10 shows the link between the total resolution costs and losses to the FDIC and other claimants.

II. Bank Failures and Resolution Types

Banks can fail for a variety of reasons including undercapitalization, liquidity, safety and soundness, and fraud. The chartering agency has the authority to terminate the bank's charter and appoint the FDIC to resolve the failure. The FDIC establishes an independent legal entity called a "receivership" that oversees the orderly resolution of the

failed bank. The following chartering agencies have the authority to essentially close a bank: the Office of the Comptroller of the Currency (OCC), Office of Thrift Supervision (OTS), and the state banking authorities. For insured federal savings associations and national banks, the FDIC must be appointed receiver. In the case of state-chartered banks that are members of the Federal Reserve System, the state banking authority may appoint the FDIC receiver. In 1991, Congress gave FDIC the power to appoint itself as receiver for state chartered insured depository institutions.[3]

As part of the resolution process, the FDIC develops a marketing strategy that includes determining the resolution structures that it offers to potential bidders. The FDIC then markets the assets and liabilities of the failing bank and evaluates the bids it receives. One option that the FDIC is required to consider is a deposit payoff, where the FDIC pays the insured depositors and liquidates the assets. The FDIC can employ two methods to pay off depositors. In a deposit payout, the FDIC pays off the insured depositors in cash (by check). The uninsured depositors and general creditors file claims against the receivership and they are paid their pro-rata share of their claim if funds are available as the assets are liquidated. In this case, any deposit franchise of the failed bank is destroyed. The other method is an insured-deposit transfer where the FDIC transfers insured deposits and secured liabilities to a healthy institution, along with a cash payment.[4] This cash payment is typically less than the face value of the liabilities because the FDIC usually receives a premium from the agent institution, and thus recovers some

[3] The FDIC has elected to do so on one occasion—in the failure of Meriden Trust & Safe Deposit Company in Meriden Connecticut on July 7, 1994.

[4] The healthy bank can also be viewed as a "paying agent" for the FDIC. Depositors of the failed firm have access to their insured deposits and can choose to whether to move their account to a new depository or accept the new relationship with the acquiring bank.

of the value of the deposit franchise. In either method the FDIC does not cover uninsured deposits which are reimbursed their pro-rata share as the assets are liquidated.

Alternatively, the FDIC can receive bids to purchase all or part of the assets and assume all or part of the deposit liabilities. The FDIC compares the cost of these bids to the cost if the FDIC liquidates the assets. Prior to the passage of the FDICIA, which required the FDIC to close institutions in a manner that is least costly to the deposit insurance fund, a bid had to pass the cost test to be acceptable.[5] The cost test required that the final resolution be less costly than a deposit payoff, however it did not require that the accepted bid be the least costly of all of the bids. For example, suppose the FDIC's cost estimate for a deposit payoff and liquidation of the assets is $450 and two bids exist, where the cost of Bank A' s bid is $300 and cost of Bank B's bid is $400. The FDIC could choose Bank B's bid after considering all other factors. In contrast, after FDICIA under the least cost test the FDIC must choose Bank A's bid.

The volume of assets the FDIC offers the bidders can vary widely and depends on the quality of the failed bank assets. On the one extreme, these bids can involve purchasing 100 percent of the assets and assuming all insured and uninsured deposits. In this case, the acquirer's bid reflects their valuation of the deposit franchise less their estimate of the expected loss on the book value of the assets. If the expected loss on assets exceeds the franchise value the bid reflects FDIC's expected payment to the acquirer. The FDIC terms this resolution structure as a whole bank purchase and assumption.

The FDIC can also receive bids where the bidder wants to purchase only part of the failed-bank's assets. Most resolutions fall in this category and the percentage of assets

[5] The cost test was established in the Depository Institutions Deregulation and Monetary Control Act, 1980.

transferred to the private sector is less than 100 percent. FDIC terms these resolutions as purchase and assumptions (P&A) transactions. Prior to FDICIA, the FDIC offered bidders to assume all deposits in a P&A because the corporation was only required to make the acquisition less costly than liquidation. When an acquirer assumes all deposits in a P&A, 100 percent protection is essentially extended to all depositors, including uninsured depositors. In contrast, only insured depositors are protected 100 percent in a deposit payout. After FDICIA, the FDIC gave the bidders the option to bid for either all of the deposits or for only the insured deposits because a least-cost resolution almost always includes imposing losses on uninsured depositors.

The last category of failure resolution methods is open-bank assistance (OBA). Here the FDIC does not establish a receivership but provides financial assistance to an open institution to prevent it from failing. Generally, the FDIC replaces the existing bank management. A major criticism of OBA is that the shareholders of the failing institution benefit from the assistance provided by the FDIC. In fact, FDICIA prohibits the use of the deposit insurance fund to benefit the shareholders or uninsured creditors of an institution that has failed or is in danger of failing. However, if the two-thirds of the Boards of both the FDIC and the Board of Governors of the Federal Reserve System recommend, and the secretary of the Treasury, in consultation with the president, determines that the least-costly approach would have serious adverse effects on economic conditions or financial stability, then there is an exception to this rule. This is referred to as the *systemic risk exception.* In our analysis, we exclude OBA transactions because our measures of resolution costs rely on records from the receiverships, and because OBA transactions do not result in a receivership.

Panel A of Table 1 shows the number of banks that were insured by the Bank Insurance Fund (BIF) and the Deposit Insurance Fund (DIF) and failed from 1986 to 2007.[6] There are in total 1,244 bank failures during 1986 to 2007, where each bank within a holding company is treated as a separate observation. These failures do not include the 317 failed institutions that were insured by Federal Savings and Loan Insurance Corporation (FSLIC), 747 failed institutions that were resolved by the Resolution Trust Corporation, and 6 failed institutions that were insured by the Savings Association Insurance Fund (SAIF). We exclude these institutions because our analysis relies on the FDIC internal accounting records, which are readily available for the BIF- and DIF-insured institutions.[7]

During the sample period we observe that the number of bank failures peaks in 1988 and dramatically drops after 1992. Indeed, during 2005 and 2006 there were no bank failures. Table 1 also shows failures by resolution type. We observe in Panel A of Table 1 that out of 1,244 failures between 1986 and 2007, 237 cases (19 percent of the failures) are deposit payoffs and 1,007 cases (81 percent of the failures) are P&A transactions including whole-bank transactions. IDT proves to be the preferred method when the deposit payoff approach is used. Whole-bank transactions lose popularity following 1991.

Panel B of Table 1 compares our sample with the universe of BIF- and DIF-insured bank failures summarized in Panel A. Our sample includes 97.5 percent of the

[6] The Financial Institution Reform and Recovery Act (FIRREA) of 1989 created the Saving Association Insurance Fund (SAIF) to replace the Federal Savings and Loan Insurance Corporation (FSLIC) as the provider of deposit insurance for thrift institutions. The SAIF was administered by the FDIC separately from its bank insurance fund, called the Bank Insurance Fund (BIF). The Federal Deposit Insurance Reform Act of 2005 merged the SAIF and BIF into one insurance fund called the Deposit Insurance Fund (DIF). DIF covered the three failures that occurred during the 2005 to 2007 period.

[7] Curry and Shibut (2000) discuss the costs of the savings and loan crisis.

total failures (1,213 failures of the total 1,244) that were placed under a receivership for resolution. We exclude 31 institutions for two reasons. First, the resolution process was not completed by the end of 2007 for 34 of the institutions. We exclude all but five of these institutions—those that failed in or before 1991. These institutions are First Republicbank Delaware, which failed August 2, 1988, Capitol Bank and Trust Company, which failed December 28, 1990, Bank of New England, which failed January 6, 1991, Goldome, which failed May 31, 1991 and Cititrust, which failed August 9, 1991. We also exclude two institutions, Meriden Trust & Safe Deposit Company of Meriden, Connecticut, which failed on July 7, 1994, and Private Bank and Trust Company of Miami, Florida, which failed on October 29, 1991, because these institutions were not taking deposits or making loans at the time of failure.

We do one last adjustment. In our sample, 132 banks of the 1,213 failures belong to eleven bank holding companies. These bank holding companies and the respective number of failed banks within the holding company (in parentheses) are First Republic (41), MCorp (20), Texas American Bankshares (24), National Bankshares (9), Bank of New England (3), Southeast Bank (2), New Hampshire banks (7), First City (20), Merchant Bank (2), Bridgeport (2) and Eastland (2). In our analysis we consolidate these failures under their respective bank holding companies and our resulting sample size is 1,092.

INSERT TABLE 1 HERE

III. Defining Resolution Cost

A common definition of total bank resolution cost (TRC) is the difference between the liabilities of the failed bank (BVL_0) at time of failure (t=0) and the sum of the

liquidation value of its assets (*LVA*) during the resolution process net of expenses incurred by the receivership (*EXP*), adjusted for any explicit premium received (*PR*) in the resolution process. Assets are liquidated over time between failure time (*t=0*) and termination of the receivership (*t=T*) and during this period the receivership incurs expenses. In notation total resolution cost (TRC) is,

$$TRC_0 = \sum_{t=0}^{T} LVA_t - BVL_0 + PR_0 - \sum_{t=0}^{T} EXP_t \tag{1}$$

By rearranging equation (1) we can show that total resolution cost equals the market value of the equity of the failed bank (ignoring discounting). To see this, we add and subtract the book value of assets at failure (BVA_0) from equation (1) and define the loss on assets (*LOA*) as the difference between the liquidation value of assets (*LVA*) and the book value of assets (*BVA*). We also define the book value of equity (*BVE*) as the difference between book value of assets (*BVA*) and the book value of liabilities (*BVL*). Thus we can state equation (1) as:

$$TRC_0 = BVE_0 + \sum_{t=0}^{T} LOA_t + PR_0 - \sum_{t=0}^{T} EXP_t \tag{2}$$

Equation (2) shows that, total resolution cost equals the book value of equity adjusted for the gains or losses on the disposition of assets and liabilities and receivership expenses. Thus, in equation (2) we obtain the market value of equity of the failed institution, which can be a negative number. This interpretation enables us to link the book value of equity of the failed bank at time of failure to its market value, where the

difference constitutes the markup or markdown of the book value of equity to its market value.

One advantage of considering TRC_0 as the market value of equity at the failed bank is that it provides an insight into the dynamics of the failure resolution process. When the receivership assumes a failed bank it starts with an initial BVE_0. During the resolution process assets and liabilities of the failed bank are marketed. Such efforts result in a revenue stream (LOA_t) that is either more or less than the book value of the assets yielding an increase or decrease in the BVE_0. Hence, LOA_t is nothing but a market value adjustment of the BVE_0. The market value of the equity is further affected by the existence of the premium (PR_0) and decreases as the receivership incurs expenses related to the resolution process.

Replacing the sum of the loss on assets in equation (2) with the discounted value (LOA_0) together with the premiums and discounted values of expenses we obtain the discounted value of resolution costs. We organize Table 2 to reflect the definition of total resolution costs on a discounted basis as shown in equation (2).

We use the following procedure for discounting. We match a Treasury yield curve to each failure based on the month that the bank failed and then fit a cubic spline to each yield curve to calculate a yield for each month along the yield curve. We use these smoothed yields to discount each of the monthly cash flows. Appendix A provides an explanation of the discounting process that we use.

IV. Components of Resolution Costs

Data for resolution costs come from the FDIC General Ledger (GL). We also use information from the Failure Transactions Database (FTDB), which is an electronic database that is maintained by the FDIC's Division of Insurance and Research. Among other data items, this database houses the estimated cost produced by the Division of Finance which was previously published as the Failed Bank Cost Analysis (FBCA).[8]

Table 2 provides the average resolution cost resulting from bank failures. The table is organized to reflect the components of equation (2) both on a discounted and non-discounted basis. We start by identifying the book value of equity at failure. Here we allow for asset and liability adjustments post failure. Often assets and liabilities are discovered or the book values at failure need to be adjusted after failure. Discovered assets and liabilities are those that exist but are not recorded or recognized in the failed bank's general ledger accounts at the time of closing. It is important to note that all loan loss reserves are reversed before the total amount of assets and liabilities are recorded at the time of failure.

To derive loss on assets we make a number of additions to gain and (loss) on assets data item obtained from the FDIC GL. The first addition is the net income or loss from assistance agreements. The FDIC, not the receivership, made these agreements as part of the resolution. The net income or losses from these agreements are tracked outside of the receivership records in the FDIC GL. The net income for assistance agreements can be negative, which indicates additional loss, or positive, which indicates an offset to the receivership loss. The positive number can arise because in some cases, the FDIC

[8] The estimated cost from the Division of Finance can also be found on the FDIC website in the Historical Statistics on Banking (http://www4.fdic.gov/HSOB/index.asp).

may have taken an equity stake in the acquiring bank, would receive dividends, and eventually sell the stock back to the acquiring bank.[9]

We also include net loss sharing expenses that arise from agreements between the receivership and acquirer that the receiver will share in losses (and recoveries) that are incurred on some of the assets that the acquirer has purchased. These loss sharing agreements were first used in the early 1990s primarily in large bank failures to facilitate the marketing of assets.

The premium paid to the acquirer can reflect two types of payments. The receiver may pay a financial institution to administer depositor payoff in an insured deposit transfer transaction. This does not frequently occur—in our sample the receivership paid a premium in only seven out of the 155 IDT transactions. In the remainder of the IDTs the receivership received a premium. The bulk of the premium paid comes from the whole bank transactions. In these cases the bidder typically requires a one-time payment to assume the assets and deposits of the failed bank. Hence the premium paid by the receivership in whole bank transactions can reflect the loss on assets net of franchise value.

Next, we account for the value of the income from assets, which reflects the interest and fees that are earned on the assets in liquidation during the resolution process

[9] The net income or loss from assistance agreements has two parts. The first part is associated with nine resolutions, which involved 25 separate banks and amounts to $467.2 million. The second part is associated with seven resolutions and totals to $6.67 billion. The majority of this amount is associated with the following six resolutions: MCorp (20 institutions), First Republic (41), Texas American Bancshares (24), Bridgeport (2), Bank of New England (3) and Goldome. For these resolutions the Division of Finance made manual adjustments to arrive at the final loss numbers, which were not available in the electronic records. Unfortunately, these loss numbers not only include gain or loss on the disposition of assets but also receivership expenses and other income items. The remainder of the total loss number for the assistance agreements comes from Capitol Bank and Trust Company, which failed in 1990 and is still active, is included in the adjustment for a gain of $12 million.

and other miscellaneous income. Finally, we include the value of the interest expense paid to the FDIC before we arrive at the loss on assets.

Consistent with equation (2) we account for two items to arrive at the resolution cost. The first one is the premium received from the acquirer. This item reflects the amount that the acquirer pays to the receivership to assume the deposits of the failed bank. The premium received can be used as an imperfect proxy for the franchise value of the failed bank. The proxy is imperfect because in P&A transactions the cash payment for the liabilities can be confounded by the bid for the assets. An acquirer can adjust upward or downward the premium paid for deposits depending on the estimated market value of assets, which is revealed by the FDIC to the prospective bidders.

The last item is the receivership expenses. These expense items are akin to the bankruptcy costs of corporate failures. We classify these expenses into direct expenses and indirect liquidation expenses.

Direct liquidation expenses represent salaries, travel, legal and other professional fees such as accounting and auditing fees incurred in the resolution process. Liquidation overhead is general liquidation expenses from overhead associated with the FDIC's liquidation activities that cannot be charged to specific assets or receiverships. The allocation of these expenses to individual receivership is challenging. The FDIC has changed the types of expenses included and the allocation method of the indirect expenses to the receiverships over our sample period. Currently, the FDIC uses a service costing approach. Under the service costing approach, the costs are allocated to the receivership by charging the receivership for the services provided by the FDIC using market-based prices for the services. For example, indirect expenses can include a flat

rate for each claim that is processed or hourly rates for investigating legal matters pertaining to the receivership.

In sum, total resolutions costs represent the losses that incur to all of the claims on the receivership, including losses to the deposit insurance fund represented by claims held by the FDIC.

Table 2 also reports the total resolution costs on a discounted basis. Here, consistent with equation (5) in Appendix A, we discount gain and (loss) on disposition of assets and interest paid on loans made to the receivership by the FDIC. We also account for discounted values of net loss sharing expenses, income from assets, and direct liquidation expenses.

Table 3 presents each component as a fraction of the book value of assets of the failed bank at failure and presents information on the distribution of these variables. In addition to the components of resolution cost shown on Table 2, we include the book value of equity on the last Call Report. This value differs from the book value of equity at the time of failure for two reasons. First, the book value of equity changes over time and the last Call Report is filed before the time of failure. Second, the FDIC reverses the loan loss reserves before recording the book value of equity at failure on the receiverships books.

The capital ratio at failure, defined as the book value of equity as a percent of book value of assets at failure, varies considerably in the sample. We have institutions that are closed with book value equity ratios as high as 26 percent. However closing banks with high positive book value of equity at failure is a rarity—only nine percent of our sample had book value of equity ratio above 8 percent at time of closure. In contrast,

we observe a larger percentage of banks failing with negative book value of equity ratios. Indeed, 34 percent of our sample has zero or negative book value of equity at time of closure. In one case a failed bank had a negative book equity ratio as large as 58 percent.

Loss on assets shows similar variation. In one extreme case losses constituted 117 percent of the assets at failure on a discounted basis. In rare cases, there are gains on the disposition of assets. Loss on assets yields a zero or a positive gain in only five institutions in our sample of 1,092.

Total resolution costs as a result show a significant variation. While at one extreme total resolution cost (market value of equity at termination) is a positive number, representing a gain, and is as high as 8.45 percent of the assets at failure, at the other extreme this ratio is negative 138.96 percent.

V. Resolution Methods and Costs

In Panel A of Table 4 we present a breakdown of costs in terms of resolution methods and in Panel B, we show the components as a fraction of the book value of assets at failure. The first observation from Panel B is that average capital ratios at failure do not vary significantly between deposit payoff and P&A methods. The mean (median) capital ratio at failure is 1.44 (1.97) percent for deposit payoffs and 1.69 (2.32) percent for P&As. They are not, however, statistically different from each other.

In contrast, the whole bank method appears to be applied to institutions that have exhausted their book value equity. Such extremely low capitalization explains why the FDIC was willing to pay a significant premium, about $5.5 billion per resolution, to acquirers in whole-bank transactions. This amount, which constitutes 12.41 percent of

assets at failure, basically achieves re-capitalization in book value terms, and creates incentives for the acquirer to assume the assets and deposits of the failed bank as a whole.

To illustrate this point, consider the averages for whole-bank transactions shown in Panel A of Table 4. On average the book value of equity is $459 thousand. Once we adjust for the undiscounted gains and losses we arrive at a negative equity base of $1.958 million ($2,417,000 less $459,000).[10] The premium paid to the acquirer is on average $5.521 million. Hence, the premium paid to the acquirer results in the final equity of the acquired whole bank to be $3.563 million or 8 percent of assets at failure.

In terms of loss on assets we also do not observe any differences between deposit payoffs and the P&As. On the other hand, the franchise value, which is reflected in the premiums received from the acquirer, offsets the loss on assets for P&A transactions. Expectedly, P&As command significantly higher premiums. Hence, it is plausible that the acquirer factors in the franchise value of the bank as well as the market value of the assets in the bid for the bank.

The deposit payoff method has significantly higher receivership expenses than the P&A method. The mean direct receivership expense ratio for deposit payoff is 4.88 percent compared to 3.76 percent for P&A transactions and the difference in mean (median) are highly significant. This result is expected because in a Deposit Payoff the receivership not only incurs expenses related to the liquidation of the assets but also incurs expenses associated with paying off the depositors

It is instructive to compare receivership expenses resulting from bank failures with estimates of direct bankruptcy costs for non-financial firms. In a recent paper, Bris,

[10] Note that Table 4 reports discounted values. The undiscounted value of the 2,787,000 reported in Table 4 is 2, 417,000.

Welch, and Zhu (2006) provide estimates for Chapter 7 and Chapter 11 bankruptcies for 300 bankruptcies from 1995 to 2001. They list the components of Chapter 7 expenses as the trustee, accountant, and debtor attorney expenses. The trustee is responsible for the sale of the assets and distribution of the proceeds to the creditors. For Chapter 11 expenses, they present debtor expenses and unsecured creditors' committee expenses. They report mean (median) expenses to be 8.1 (2.5) percent of pre-bankruptcy assets for Chapter 7 and 16.9 (1.9) percent for Chapter 11 bankruptcies. Their statistical tests show that direct expense ratios are similar across Chapter 7 and 11 bankruptcy procedures.

When we compare the mean (median) direct expense ratios of 4.88 (4.56) for Deposit Payoff and 3.76 (3.52) for P&As with those associated with bankruptcies of non-financial firms a number of observations emerge. First, the distribution of the expense ratios in the bankruptcy sample are more skewed than those in our sample. Second, the expense ratios for non-financials pertain to asset sizes, which are much smaller than the average size of bank failures. Therefore, although it becomes quite difficult to compare the direct expense ratios for financial and non-financial bankruptcies, one can argue that costs are comparable.

In addition to direct expenses bank failure resolution requires additional expenses, such as overhead expense. This is an economically significant addition since it doubles the direct expense ratio in the case of deposit payoffs and P&As. Studies that examine the bankruptcy costs of non-financial firms ignore overhead costs of the courts, which are borne by the taxpayers. For failures of financial firms, FDIC recognizes overhead costs and they are reflected in the receivership expenses.

In summary, both deposit payoffs and P&A transactions start with failed banks that have similar mean and median capital ratios. The loss on assets ratio for P&As is lower than for deposit payoffs and the premium received for the franchise value is higher for the P&As. In addition, the Deposit Payoffs suffer from significantly higher total receivership expense ratios relative to P&As. These opposing factors result in total resolution costs that are marginally smaller for P&As.

An important *caveat* applies here. The deposit payoff resolution method is used for failures of smaller size than the P&A method. On average failed banks that were resolved using a P&A resolution are five times larger. Given the negative relationship between bank size and resolution cost ratio, as we demonstrate in the next section, this cost differential can be caused by the size effect. Thus, we need to conduct a multivariate analysis to sort out the exact source of the cost differential between resolution methods.

The relationship we find between total resolution costs and resolution types is similar to Bovenzi and Murton (1988) and Brown and Epstein (1992) and James (1991), who find that loss rates are higher for deposit payoffs than for P&A transactions and whole bank transactions.

The second complication is that typically the FDIC is forced to acquire and liquidate the worst quality assets when it receives no qualifying bids from a viable bank. Banks specialize in making loans and not managing bad assets. Therefore, absent substantial concessions, a prospective bidder may not bid on loans that are either delinquent or that they expect will go delinquent. Consequently, institutions that have higher quality assets and a higher franchise value associated with their deposits are more likely to attract more bidders with the result that more assets will remain in the private

sector. Therefore, it is misleading to compare costs between the private-sector reorganization and the FDIC liquidations without controlling for the selection bias implicit in the resolution process. Bennett and Unal (2014) undertake such a study and find that once they control for selection bias, P&A transactions prove to be costlier during the crisis period of 1986 to1991 than during the non-crisis period of 1992 to 1997.

VI. Resolution Cost and Size

The cost of resolving a failed bank can depend on size for a number of reasons. First, there can be economies of scale in marketing the asset and liabilities of the failed bank. The FDIC can construct, market, and service asset pools more efficiently when asset size is larger. Second, the types of assets that small banks hold could be different than large banks generating differing liquidation costs. Empirically, it is well known that a strong correlation exists between bank asset size and resolution costs as a percent of assets (FDIC(1998), p. 100).

Table 5 confirms these observations. We classify total resolution costs by the six size categories used in analysis in FDIC (1998). In Panel B, we further collapse these categories to three: small, medium, and large. The size cutoffs for the three classifications are consistent with those used in the FDIC's Quarterly Banking Profile.

The first observation is that small banks enter the failure state with lower book value of equity ratios. Larger banks have higher capital ratios. Loss on assets exhibits an inverse relationship with size. Direct and total receivership expense ratios are also lower for larger banks. As a result, we find total resolution costs as a percent of book value of assets at failure decline with asset size confirming the findings of earlier studies.

To illustrate the characteristics of the components of the resolution costs for the largest failures, in Appendix B we provide the largest 25 failures in our sample. We also note other large failures that are excluded from our sample. The list shows that our sample captures the majority of the largest failures during the time period.

On this list Bank of New England, MCorp, and Texas American Bankshares are noteworthy because they have the largest book value of equity at failure. Such high capital ratios exist because in the resolution of these failures FDIC used its cross guarantee assessment authority to assess other financial institutions in the same holding company.

VII. Legislative Periods and Costs

During the 1986 to 2007 period the banking industry has gone from deep crisis into recovery, and eventually prosperity. Two pieces of legislation passed by the Congress to deal with the banking crisis of the 1980s marked this period: FIRREA and FDICIA. Appendix C provides an outline of how these two major pieces of banking legislation have affected the failure resolution process.

Most notably, FIRREA allowed the FDIC to offset losses via the cross guarantee provision. This clause enables the FDIC to recover some of its resolution costs by assessing these costs against the solvent insured institutions in the same holding company.

Two provisions of FDICIA had profound impact on failed bank resolutions. These were prompt corrective action (PCA) and the least-cost resolutions. The PCA provision required the FDIC to take mandatory actions for critically undercapitalized institutions, which are banks with a tangible capital ratio of two percent or below. The intent of this

provision was to require distressed banks to be closed before they become severely distressed. Hence, we expect the capital ratios of the failed banks post FDICIA to be significantly higher than the capital ratios of the failures pre-FDICIA.

The second important provision required the FDIC to use the method that is least costly to the deposit insurance fund(s)—otherwise referred to as the Least Cost Test. This provision requires the FDIC to resolve banks in a manner that is least costly to the deposit insurance fund. Note that this requirement may or may not translate into lower total resolution costs because it is a requirement that focuses on the loss to the FDIC. However, since the FDIC is typically the largest claimant class, we expect total resolution costs to be lower in the post-FDICIA era.

We split the sample into separate legislative periods to capture the time-series characteristics of the resolution cost components. In particular, we look at the period before FIRREA, the FIRREA period, and the FDICIA periods. The Pre-FIRREA period ends in August of 1989 and the FDICIA period starts in January 1992. We show the results from this analysis in Table 6.

The first interesting observation pertains to the capital ratio. The average book value of equity at the failed institutions shows an increasing trend. The mean (median) capital ratio of the 582 institutions that failed during the pre-FIRREA period is 0.68 percent (1.30 percent). This ratio increases to 3.63 percent (4.25 percent) for the 173 failures during the post FDICIA period. This result is consistent with the objectives of PCA and shows that distressed banks were closed before they became severely distressed.

In contrast, we observe an opposite trend for loss on assets. The mean (median) loss on assets ratio declines from 26.28 percent (25.67 percent) in the pre-FIRREA period to 17.43 percent (16.15 percent) during post FDICIA period. This positive development is also augmented by an increase in premiums received from acquirers.

In terms of receivership expenses we do not find any significant changes in direct expenses. However, indirect expenses decline as evidenced by a decrease in total Receivership Expenses. As noted above, the FDIC has modified the allocation of indirect expenses to the receiverships over the sample and this decline is the result of changes in the allocation method.

As a result, we observe that the mean and median of the total resolutions cost ratio has decreased over these different legislative periods. In particular, during the post-FDICIA period the mean (median) total resolutions cost ratio is 22.92 percent (21.26 percent) on a discounted basis. In contrast, in the pre-FIRREA period the mean (median) cost ratio is 39.82 percent (37.96 percent). Note that there is a significant decline in resolution costs between the pre-FIRREA and FIRREA periods.

The total resolution cost ratio for the pre-FIRREA period is similar to the cost ratios reported in Bovenzi and Murton (1988), Brown and Epstein (1992), and James (1991), who find that the loss on assets is approximately 30 percent of failed-bank assets during the banking crisis of the late 1980s. These studies use assets at failure as a base to calculate the cost percentage and ignore assets discovered post failure. In addition, they all use discounted values but it is unclear what method they use to discount the flows.

VIII. Fraud and Resolution Costs

In a report prepared for the president and Congress in July 1993, a national commission found fraud and misconduct to be an important cause of failures in the 1980s. The same report also argued that losses due to fraud constituted a significant portion of total losses.

No prior academic research exists identifying the contribution of fraud to failure resolution costs. The primary reason for this lack of research is the difficulty of identifying fraud. A database compiled at the Division of Insurance and Research at the FDIC that captures the causes of failure has the potential to fill this void.

The database identifies fraud in failures between 1989 and the present. The fraud variables are hand-collected from the written reports that are presented to the FDIC board when the FDIC is in the process of planning the resolution of a troubled bank. The failing bank case has a narrative section that discusses the primary reasons the bank failed. From these failing bank cases, the FDIC compiled a database of causes of failure, including fraud.

The database includes three fraud indicators—whether fraud was the primary cause of failure, whether fraud contributed to the failure of the institution, and whether fraud was present. These determinations were made independently by three subject matter experts who reviewed the failing bank cases. If two of the three experts agreed then the fraud category was recorded.

For example, fraud typically involves either fraudulent insider loans or manipulation of bank records. Fraudulent insider loans can include loans that are made to friends and family as favors or the bank may be receiving bribes and kickbacks as a result of the lending activity. Manipulation of bank records could include booking fictitious

loans or changing loan information (such as balances, interest rates, due dates etc.) thereby making loans that will likely result in loss look like high quality assets. Both of these types of fraud can be so widespread that, once the fraudulent assets are accounted for appropriately, the institution falls below the regulatory threshold and becomes critically undercapitalized. Such a case would be categorized as one where fraud is the primary cause of failure. Alternatively, fraudulent insider loans or manipulation of bank records may be less widespread. Instead, poor loan quality resulting simply from poor loan administration can be the primary cause of the institution's status as critically undercapitalized. This case would be categorized as one where fraud is a contributing factor in the failure. Lastly, fraudulent insider loans can be present at the bank but the losses are so small that they aren't considered a contributing factor in the failure. This case would be categorized as "fraud is present."

In Table 7 we breakdown the calculation of total resolution costs by different measures of fraud. The database on fraud includes 608 of the 612 institutions in our sample that failed from 1989 to the present. We report averages for this sample, three categories of fraud samples, and the no-fraud sample.

Panel B shows the mean and median for each ratio and presents univariate tests that examine the difference between each type of fraud from the no fraud cases. In terms of book value of equity ratio, loss on assets, direct liquidation expenses, and total resolution costs we find no significant difference between fraud and no-fraud cases.

It is important to note that on average the institutions in the no-fraud sample are much larger than those in the fraud sample. When we look at the weighted average of resolution costs to the book value of assets (total resolution cost to book value of assets at

failure) we find that the group where fraud is the primary cause of failure has a weighted average of 31.83 percent compared to 28.01 percent for the no fraud group. The interaction between fraud and size needs to be explored in a multivariate analysis.

IX. Time in Receivership and Duration

In Table 8 we summarize average time in receivership and the duration of some expense and income categories. For our sample of 1,213 institutions a failed bank remains in receivership for five years on average. However, we observe that average time in receivership increased slightly during the FIRREA legislative period and decreased after FDICIA. For example, on average an institution was in receivership three months longer during the pre-FIRREA that in the FDICIA. Another observation is that liquidation expenses are incurred sooner than proceeds from the sale of assets and income from assets are received. Such a difference in timing between cash inflows and outflows creates the need for working capital, which the receivership borrows from the FDIC.

In the second panel of Table 8, we observe that on average banks that were resolved using a deposit payoff remained in receivership for the longest time relative to other resolution types. On average, receiverships associated with whole-bank transactions, which typically have very few assets left in the receivership, were terminated in the least amount of time. When we classify time in receivership by legislative period and resolution type, as shown in the third panel of Table 8, we observe that the time in receivership generally falls in the post-FDICIA period across all resolution methods.

Bris, Welch, and Zhu (2006) report that their sample Chapter 11 bankruptcies spent on average (median) 2.27 years (2.37 years) and Chapter 7 spent 1.94 years (1.84 years) in bankruptcy. As expected, reorganization takes a longer time than liquidation. In contrast, the failed banks take longer to resolve. When we compare our sample results with those of bankrupt firms, we observe that it takes about twice as long to resolve a bank either using deposit payoff or P&A.

X. Losses to Claimants

As noted above, total resolution costs represent losses to all of the claimants against the receivership, including losses to the FDIC. The Division of Finance at the FDIC publishes the loss to the FDIC in the Failed Bank Cost Analysis. In this section, we make the connection between the total resolution costs shown on Table 2 and the loss to the FDIC and other claimants. In Panel A of Table 9, we first take the undiscounted measure of average total resolution costs of $26.989 million which is shown in Table 2. We then show how the $26.989 million in total resolution costs reported in Table 2 is borne by different classes of claimants. The largest claimant class is the FDIC claim which represents the subrogated claim of the FDIC. This claim includes any deposit claim that was covered by the deposit insurance fund.[11] The FDIC claim also includes any other liability that the receivership has with the FDIC in its corporate capacity such as loans made to the receivership and the accrued interest on those loans. We then show the recoveries on the claim. We include the net loss on assistance agreements because

[11] Recall that prior to FDICIA the FDIC may have covered both insured and uninsured depositors. After the passage of FDICIA and the accompanying least cost provision, there is an incentive for the FDIC to cover only the insured depositors.

that loss is borne solely by the FDIC. Also, we include accounting adjustments, which we call "Non-Cash Adjustments". Accounting adjustments include items such as adjustments to prior period income and expenses, which comprise the majority of the average of $1.667 million.[12] As shown in Panel A, on average the loss on the FDIC claim was $26 million or approximately 21 percent of the claim.

Other claims include other deposit claims, such as uninsured deposits where applicable, general trade creditors and other unsecured debt holders. On average these claimants lose $1.659 million or approximately 27 percent of their claim.

On a few occasions after the FDIC and other claims have been paid in full (and also the interest due to the claimants) then the stockholders of the assuming institution will receive some payment.[13] As shown in Table 9, on average the dividends to stockholders are $794,000. The sum of the loss to the FDIC claim, the loss to other claimants offset by the dividends paid to the stockholders is the accounting value of total resolution costs.

We should note that the sum of the FDIC claim and the other claims presented on Table 9 differs from the total liabilities of the failed bank for two reasons. First, the claims presented in Table 9 include claims against the receivership that were not present at the time of failure, for example loans made to the receivership by the FDIC. Second, Table 9 does not show the amount of claims that were secured by failed bank assets that were paid in full primarily because these claims did not contribute to total receivership costs.

[12] These adjustments are all supported by journal entry activity for the receiverships.
[13] This occurs for 6 of the 1,213 institutions in our sample.

In Panel B of Table 9 we show how the cost estimates published by the FDIC's Division of Finance relates to the loss on the FDIC claim. The cost estimated published by the FDIC represent the cost to the deposit insurance fund. Similarly, the loss on the FDIC claim represents the cost to the deposit insurance fund, and is one component of the total receivership costs shown in Panel A.[14] These loss figures are an accounting measure and on average for our sample. he loss to the FDIC reported by the Division of Finance is $25.796 million. To arrive at this figure from the loss to the FDIC claim shown in Panel A, first we reverse the amount of post-insolvency interest that was accrued but not paid to the FDIC. If the FDIC is paid in full, then the receivership also compensates the FDIC for interest that it would have earned on the claim. This amount of interest that was accrued but not paid is reversed because it was not part of the original FDIC claim. Interest due to the corporation that was not paid is also reversed because it was not part of the original FDIC claim. Recoveries from secondary insurance funds offset the loss to the FDIC.[15] The next item reverses the amount of the total FDIC claim that is associated with an assessment for a cross guaranty that was not paid in full. Again, this item lowers the loss to the FDIC. Finally, we also include a line called "Accounting Adjustments". This item includes any adjustments that were made to prior period accounting entries.[16] Once all of the adjustments are made, we arrive at the loss to the FDIC published by the Division of Finance.

[14] This estimate of loss which is calculated by the FDIC's Division of Finance is available publicly on the FDIC website in the Historical Statistics on Banking at http://www4.fdic.gov/hsob/index.asp.
[15] Secondary insurers provide deposit insurance to member institutions for deposits in excess of applicable Corporation insurance limits. The FDIC may enter into agreements with secondary insurers that allow the FDIC to cover uninsured depositors that are covered by the secondary insurer and be subrogated in the usual manner. The secondary insurer then pays the FDIC an amount equal to the uninsured deposits that were covered.
[16] These adjustments are all supported by data from journal entries into the General Ledger.

In Table 10 we show the mean and median recovery rates for the claimant classes by resolution methods. The mean (median) recovery rate on the FDIC claim for deposit payoff transactions is 72.34 (74.01) percent. The recovery is lower for P&A transactions at 68.66 (71.34) percent. The lowest recovery rates the FDIC experiences is for whole bank transactions. Table 10 shows a similar pattern of recovery rates for other claimants.

XI. Conclusion

In this paper we construct the time-series of the cash flow transactions in the resolution process for each failed depository institution that is resolved by the FDIC during the 1986 to 2007 period.

This data structure enables us to express resolution costs on a discounted basis as of the time of failure. Another characteristic of this data series is that it reconciles accounts at two levels. The first is the receivership, which is established when the FDIC assumes a failed bank. This independent legal entity has its own accounting system where resolution income and expenses are recorded. The FDIC interacts with the receivership as a claimholder capacity and has its own accounts to record transactions with the receivership. One important feature of the data set presented in this paper is that it represents the first analysis that reconciles accounting from the two entities.

In this paper, we focus on understanding the time profile and distribution of resolution costs among different resolution methods, legislative periods, asset sizes, and failure causes. We consider this paper the first step in a more comprehensive research approach where the data series can be used as the dependent variable of a multivariate

regression. Some of this work is undertaken in Bennett and Unal (2014) who examine how the value of failed bank assets differs across two types of resolution methods. We find on a univariate basis thenet loss on assets is lower for a P&A than for a liquidation in both periods of industry health and periods of industry stress. However, once we control for selection bias, P&A transactions prove to be costlier during the crisis period of 1986 to1991 than during the non-crisis period of 1992 to 1997.

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Appendix A
Discounting Gains and Losses

To express the cash flows in equation (2) on a discounted basis we need to find discounted value of premiums, expenses, and loss on assets. We assume the premium is received at time of failure, and hence, no discounting is needed. Discounting expenses is straightforward. Discounting loss on assets is not straightforward because of data limitations. In the accounting records we do not have the liquidation value of assets (LVA_t). Instead, we have the gain or loss on asset in each period associated with the period t assets that were liquidated (BVA_t - LVA_t). To determine the discounted value of losses under this data restriction, we can express the discounted value of the loss on assets (LOA_0) as.

$$LOA_0 = BVA_0 - \sum_{t=1}^{T} \frac{LVA_t}{(1+r_t)^t} \tag{3}$$

where the appropriate risk-free rate is $r_{t,}$ or alternatively,

$$LOA_0 = \sum_{t=1}^{T} \left[BVA_t - \frac{LVA_t}{(1+r_t)^t} \right] \tag{4}$$

We re-arrange equation (A2) and add and subtract $\sum_{t=1}^{T} \frac{BVA_t}{(1+r_t)^t}$ to arrive at the following:

$$LOA_0 = \sum_{t=1}^{T} \frac{BVA_t - LVA_t}{(1+r_t)^t} + \sum_{t=1}^{T} \frac{((1+r)^t - 1)BVA_t}{(1+r_t)^t} \tag{5}$$

The first term in equation (5) is the discounted value of the accounting loss (or gain) on the assets at time *t*. The second term, which reflects the opportunity cost, or carrying cost, for the assets in liquidation. As we can observe, if we simply discount the gain (or loss) on assets in each period, we would underestimate the present value of the discounted losses.

Appendix B

Largest 25 Consolidated Institutions in Our Sample, 1986 to 2007

Source: FDIC General Ledger and Failure Transactions Database.

The following large institutions were not included in our sample: Continental Illinois (failed 5/17/1984 total assets the quarter before failure $39.96 billion), Indymac (failed 7/11/2008, total assets the quarter before failure $30.70 billion), American S&LA (failed 9/7/1988, total assets the quarter before failure $30.16 billion), Gibralter Savings (failed 3/31/1989, total assets the quarter before failure $13.38 billion), City Savings (failed 12/8/1989, total assets the quarter before failure $9.82 billion).

	Date of Failure	Name	Book Value of Assets at Failure	Book Value of Equity Quarter before Failure	As a Percent of Book Value of Assets at Failure				
					Book Value of Equity	Loss on Assets, Discounted	Direct Expense, Discounted	Receivership Expenses, Discounted	Resolution Costs, Discounted
1	7/29/1988	First Republic (41 Institutions)	$32,927,546	-2.01	5.48	-6.33	-0.09	-3.00	-3.85
2	1/6/1991	Bank of New England (3 Institutions)	21,754,000	0.37	10.53	-17.92	-2.64	-3.04	-10.43
3	3/28/1989	MCorp (20 Institutions)	15,414,557	-1.27	13.98	-40.60	-0.21	-0.65	-27.27
4	9/19/1991	Southeast Bank (2 Institutions)	10,894,127	3.44	6.20	-3.32	-0.34	-0.78	2.85
5	5/31/1991	Goldome	9,094,986	1.01	-0.91	-8.95	-1.66	-1.94	-11.80
6	10/30/1992	First City 1992 (20 institutions)	8,754,982	3.38	6.60	-1.65	-0.60	-1.31	8.61
7	1/24/1992	Crossland Savings Bank, FSB	7,268,476	-3.08	-3.45	-9.22	-0.16	-0.55	-13.23
8	7/20/1989	Texas American Bancshares (24 Institutions)	4,752,913	-9.59	11.67	-45.81	-0.13	-0.20	-34.34
9	10/10/1991	New Hampshire Banks (7 Institutions)	4,390,650	-4.67	-1.02	-17.26	-3.49	-4.14	-21.89
10	2/21/1992	Dollar Dry Dock Bank	3,806,590	2.32	2.48	-12.17	-1.07	-1.57	-10.30
11	6/12/1992	American Savings Bank	3,133,293	-0.14	1.71	-17.75	-1.88	-5.80	-21.05
12	8/9/1991	Bridgeport (2 Institutions)	2,925,402	-7.09	2.45	-29.79	-3.63	-5.21	-32.10
13	4/18/1990	The Seamen's Bank of Savings, FSB	2,406,250	-3.97	-7.27	-9.54	-1.48	-2.90	-19.50
14	11/20/1992	Merchants Bank (2 institutions)	1,674,604	0.73	8.73	-20.10	-2.88	-10.31	-20.74
15	8/10/1990	The National Bank of Washington	1,618,119	1.47	9.48	-27.69	-3.38	-9.19	-25.36
16	6/1/1990	National Bancshares (9 Institutions)	1,532,717	-15.03	-7.02	-14.07	-2.89	-5.97	-23.18
17	10/2/1992	First Constitution Bank	1,529,548	1.08	4.80	-11.41	-0.83	-2.34	-8.95
18	7/14/1986	The First National Bank & Trust of Oklahoma	1,508,250	2.55	-9.44	-11.71	-0.48	-11.57	-32.72
19	5/22/1991	The First National Bank of Toms River	1,366,356	-2.13	9.81	-19.22	-1.53	-4.15	-13.56
20	12/4/1992	Heritage Bank for Savings	1,256,016	1.11	4.39	-5.93	-0.81	-2.04	-2.70
21	6/28/1991	First Mutual Bank for Savings	1,226,964	-5.10	6.03	-26.03	-1.81	-3.94	-23.04
22	2/1/1991	Maine Savings Bank	1,208,061	-7.83	-3.37	-12.02	-0.13	-0.52	-15.90
23	11/14/1991	Connectitcut Savings Bank	1,084,525	0.45	5.46	-21.91	-3.01	-3.68	-20.14
24	12/15/1989	First American Bank and Trust	917,226	-0.92	-6.64	-48.87	-3.25	-8.83	-59.81
25	5/21/1993	New England Savings Bank	916,310	0.24	4.94	-14.75	-1.70	-3.78	-13.59

Appendix C
Legislative Background

This appendix summarizes the components of FIRREA and FDICIA that have affected the failure resolution process.

Financial Institutions Reform, Recovery and Enforcement Act (FIRREA) of 1989 Although FIRREA primarily addressed issues associated with savings and loan crisis, some provisions also addressed losses to the FDIC insurance funds. In particular FIRREA:

- Added section 5(e) to the FDI Act, which prevents affiliated banks from shifting assets and liabilities and provides for cross guarantees to be established among affiliated institutions. (This provision was most notably used for the resolutions of Bank of New England in January of 1991, Southeast Banking Corporation in September of 1991 and First City in October of 1992.)
- Established a maximum amount for the claim of any receivership claimant. The maximum amount was set to the amount that claimant would have received if the institution's assets had been liquidated
- Granted the FDIC discretion to minimize loss by using its own resources to make additional payments to any creditor or class of creditors without being obligated to make the same payment to any other creditor or class of creditors.
- Authorized the FDIC to appoint itself receiver of any state depository institution (under certain criteria)
- Repealed tax benefits associated with OBA.
- Included two additional one-year extensions (for a total of 3 possible one-year extensions) on the life of a bridge bank.
- Established a standardized claims process for all federal and state chartered banks and thrifts

The Federal Deposit Insurance Improvement Act (FDICIA) of 1991

- Established prompt corrective action whereby specific regulatory actions, including closure, were legislated based the categories described in the following table.

Prompt Corrective Action Categories

To be considered well capitalized, an institution must not be subject to any formal enforcement action that requires it to meet and maintain a certain capital level. If the bank has a composite CAMELS rating of 1 in the most recent examination and is not experiencing or anticipating significant growth, then the leverage ratio can be as low as 3 percent for both the Adequately Capitalized and Undercapitalized categories.

	Total Risk-Based Capital Ratio	Tier 1 Risk-Based Capital Ratio	Leverage Ratio	Tangible Equity to Total Assets
Well Capitalized	10 percent or higher and	6 percent or higher and	5 percent or higher	
Adequately Capitalized	10 percent or higher and	4 percent or higher and	4 percent or higher	
Undercapitalized	Less than 8 percent or	Less than 4 percent or	Less than 4 percent	
Significantly Undercapitalized	Less than 6 percent or	Less than 3 percent or	Less than 3 percent	
Critically Undercapitalized				Less than 2 percent

- Established the requirement that a receiver must be appointed no later than 90 days after an institution falls to critically undercapitalized. This period can be extended twice, in 90 day increments, to protect the fund from losses.
- Required institutions to be resolved in a manner that is least-costly to the deposit insurance fund (commonly referred to as the Least Cost Test).
- Restricted the FDIC's ability to provide OBA to the case where capital is not likely to increase without assistance and if the bank's management is not the cause of the problems at the bank and it meets the least costly requirement.
- Limited the ability of undercapitalized or critically undercapitalized institutions to borrow from the Fed so increased likelihood of liquidity failures.
- Required FDIC asset disposition to meet certain requirements including preservation of affordable housing. The affordable housing program was established by federal appropriation starting in 1992 and ending in 1996.

Table 1
Resolution Types

Source: Failure Transactions Database and FDIC General Ledger
We exclude assistance transactions from the total number of failures.
The sample includes all BIF-Insured banks that failed between 1986 and 2007 and were inactivated before December 2004. The sample also includes three institutions that failed in or before 1991 that were still active as of 2007. The sample excludes Meriden Trust and Safe Deposit Bank and Private Bank and Trust because they did not make loans or take deposits.
IDT=Insured Deposit Transfer;
P&A=Purchase and assumption; PA=P&A all deposits or unable to determine if all or insured deposits
PI=P&A insured deposits; PO=Payout

Panel A: BIF and DIF Insured Failures, 1986-2007

		Deposit Payoff		P&A		
Year of Failure	**Total**	**IDT**	**PO**	**PA**	**PI**	**Whole Bank**
1986	138	19	21	98	0	0
1987	184	40	11	115	0	18
1988	200	30	6	96	0	68
1989	206	23	9	132	0	42
1990	168	12	8	106	0	42
1991	124	17	4	80	0	23
1992	120	14	11	45	42	8
1993	41	0	5	6	30	0
1994	13	2	0	4	7	0
1995	6	1	0	0	5	0
1996	5	0	0	2	3	0
1997-2007	39	0	4	9	22	4
Total	1,244	158	79	693	109	205

Panel B: Sample

		Deposit Payoff		P&A		
Year of Failure	**Total**	**IDT**	**PO**	**PA**	**PI**	**Whole Bank**
1986	138	19	21	98	0	0
1987	184	40	11	115	0	18
1988	200	30	6	96	0	68
1989	206	23	9	132	0	42
1990	168	12	8	106	0	42
1991	123	17	3	80	0	23
1992	116	14	11	45	40	6
1993	39	0	5	6	28	0
1994	12	1	0	4	7	0
1995	6	1	0	0	5	0
1996	4	0	0	2	2	0
1997-2007	17	0	0	7	7	3
Total Sample	1,213	157	74	691	89	202
Sample as a Percent	97.5%	99.4%	93.7%	99.7%	81.7%	98.5%

Panel C: Grouped Sample

		Deposit Payoff		P&A		
Year of Failure	**Total**	**IDT**	**PO**	**PA**	**PI**	**Whole Bank**
1986	138	19	21	98	0	0
1987	184	40	11	115	0	18
1988	160	30	6	56	0	68
1989	164	22	9	91	0	42
1990	160	12	8	98	0	42
1991	113	17	3	70	0	23
1992	95	14	11	32	32	6
1993	39	0	5	6	28	0
1994	12	1	0	4	7	0
1995	6	1	0	0	5	0
1996	4	0	0	2	2	0
1997-2007	17	0	0	7	7	3
Total Sample	1,092	156	74	579	81	202

Table 2
Resolution Costs
BIF-Insured Sample
(Average, $000 omitted unless otherwise noted)

Source: FDIC General Ledger, Receivership Financial Statements
The sample includes all BIF-Insured banks that failed between 1986 and 2007 and were inactivated before December 2004. The sample also includes three institutions that failed in or before 1991 that were still active as of 2004. The sample excludes Meriden Trust and Safe Deposit Bank and Private Bank and Trust because they did not make loans or take deposits. Individual institutions (number in parentheses) in the following groups are consolidated and counted as one institution: First Republic (41), MCorp (20), Texas American Bankshares (24), National Bankshares (9), Bank of New England (3), Southeast Bank (2), New Hampshire banks (7), First City (20), Merchant Bank (2), Bridgeport (2) and Eastland (2). We discount the monthly cash flows using the Treasury yield curve that was prevailing on the date of failure. The yield curve is smoothed to generate a rate for the monthly maturity points using a cubic spline.

	Discounted		**No Discounting**	
Number (000 included)	1,092		1,092	
Book Value of Assets at Failure	183,663		183,663	
Discovered Assets and Adjustments	25,909		25,909	
Book Value of Assets		209,573		209,573
Book Value of Liabilities at Failure	(181,634)		(181,634)	
Discovered Liabilities and Adjustments	(19,159)		(19,159)	
Book Value of Liabilities		(200,793)		(200,793)
Book Value of Equity		8,779		8,779
Gain and (Loss) on Assets		(32,943)		(27,603)
Net Income/(Loss) from Assistance Agreements		(6,481)		(6,481)
Net Loss Sharing Expenses		(642)		(700)
Premium Paid to Acquirer		(1,621)		(1,621)
Income from Assets		8,000		9,342
Loss on Assets		(33,686)		(27,062)
Premium Received from Acquirer		1,259		1,259
Direct Liquidation Expenses		(3,123)		(3,652)
Liquidation Overhead		(6,312)		(6,312)
Total Receivership Expenses		(9,435)		(9,965)
Total Resolution Costs		(33,084)		(26,989)

Table 3
Descriptive Statistics for Components of Resolution Costs
BIF-Insured Sample
as a Percent of the Book Value of Assets at Failure

Source: FDIC General Ledger, Receivership Financial Statements

The sample includes all BIF-Insured banks that failed between 1986 and 2007 and were inactivated before December 2004. The sample also includes three institutions that failed in or before 1991 that were still active as of 2004. The sample excludes Meriden Trust and Safe Deposit Bank and Private Bank and Trust because they did not make loans or take deposits. Individual institutions (number in parentheses) in the following groups are consolidated and counted as one institution: First Republic (41), MCorp (20), Texas American Bankshares (24), National Bankshares (9), Bank of New England (3), Southeast Bank (2), New Hampshire Banks (7), First City (20), Merchant Bank (2), Bridgeport (2) and Eastland (2). We discount the monthly cash flows using the Treasury yield curve that was prevailing on the date of failure. The yield curve is smoothed to generate a rate for the monthly maturity points using a cubic spline.

	Weighted Average	Mean	Standard Deviation	Minimum	First Quartile	Median	Third Quartile	Maximum
Book Value of Equity on the Last Call Report	-1.10	-1.36	5.99	-39.23	-3.46	-0.27	1.64	17.31
Book Value of Equity	4.19	1.32	6.50	-58.31	-1.33	1.83	4.66	25.98
Loss on Assets	-16.07	-23.38	12.35	-116.98	-30.69	-22.03	-14.23	9.03
Premiums Received from Acquirer	0.60	1.42	2.07	0.00	0.21	0.75	1.85	26.70
Direct Liquidation Expenses	-1.49	-3.49	2.09	-14.39	-4.69	-3.36	-2.01	-0.09
Total Receivership Expenses	-4.50	-12.02	9.12	-53.84	-15.07	-9.60	-5.90	-0.17
Total Resolution Costs	-15.79	-33.18	19.41	-138.96	-44.71	-29.89	-19.37	8.45

Table 4
Resolution Costs by Resolution Method
BIF-Insured Sample
(Average, $000 omitted unless otherwise noted)

Source: FDIC General Ledger, Receivership Financial Statements
The sample includes all BIF-Insured banks that failed between 1986 and 2007 and were inactivated before December 2004. The sample also includes three institutions that failed in or before 1991 that were still active as of the end of 2004. The sample excludes Meriden Trust and Safe Deposit Bank because it did not make loans or take deposits. Individual institutions (number in parentheses) in the following holding companies are consolidated and counted as one institution: First Republic (41), Mcorp (20), Texas American Bankshares (24), National Bankshares (9) Bank of New England (3), Southeast Bank (2), New Hampshire banks (7), First City (20), Merchant Bank (2), and Bridgeport (2). We discount the monthly cash flows using the Treasury yield curve that was prevailing on the date of failure. The yield curve is smoothed to generate a rate for the monthly maturity points using a cubic spline.
***=Significantly different than Payoff at 99 percent confidence level, **=95 percent level, *=90 percent level.
+++=Significantly different than P&A at the 99 confidence percent level, ++=95 percent level, +=90 percent level.

Panel A: Calculation of Resolution Costs

	Deposit Payoff		P&A		Whole Bank Transaction	
Number (000 included)	230		660		202	
Book Value of Assets at Failure	59,867		269,395		44,504	
Discovered and Adjusted Assets	923		42,475		233	
Book Value of Assets		60,790		311,871		44,738
Book Value of Liabilities at Failure	(58,993)		(266,430)		(44,219)	
Discovered and Adjusted Liabilities	203		(31,753)		(59)	
Book Value of Liabilities		(58,790)		(298,182)		(44,279)
Book Value of Equity		2,000		13,688		459
Gain and (Loss) on Assets		(26,070)		(44,568)		(2,787)
Net Income/(Loss) from Assistance Agreements		52		(10,743)		7
Net Loss Sharing Expense		0		(996)		(214)
Premium Paid to Acquirer		(409)		(849)		(5,521)
Income from Assets		6,280		10,700		1,138
Loss on Assets		(20,147)		(46,456)		(7,378)
Premium Received from the Acquirer		343		1,963		0
Direct Liquidation Expense		(2,364)		(4,229)		(372)
Indirect Liquidation Expense		(3,331)		(8,726)		(1,820)
Total Receivership Expenses		(5,695)		(12,956)		(2,193)
Total Resolution Costs		(23,498)		(43,761)		(9,112)

Panel B: Mean and (Median), as a Percent of Book Value of Assets at Failure

	Deposit Payoff		P&A		Whole Bank Transaction			
Book Value of Equity	1.44	(1.97)	1.69	(2.32)	-0.01 ***	+	(0.55) ***	+++
Loss on Assets	-27.80	(-27.36)	-23.16	(-21.85)	-19.08 ***	+++	(-17.40) ***	+++
Premiums Received from Acquirer	1.01	(0.37)	1.53 *	(0.91) ***				
Direct Liquidation Expenses	-4.88	(-4.56)	-3.76 ***	(-3.52) ***	-1.02 ***	+++	(-0.79) ***	+++
Total Receivership Expenses	-11.02	(-10.06)	-14.44 ***	(-11.46) ***	-5.28 ***	+++	(-3.77) ***	+++
Total Resolution Costs	-36.74	(-36.07)	-34.63	(-30.70) ***	-24.37 ***	+++	(-21.28) ***	+++

Table 5
Resolution Costs by Size
BIF-Insured Sample
Average, $000 omitted unless otherwise noted)

Source: FDIC General Ledger, Receivership Financial Statements

The sample includes all BIF-Insured banks that failed between 1986 and 2007 and were inactivated before December 2004. The sample also includes three institutions that failed in or before 1991 that were still active as of 2004. The sample excludes Meriden Trust and Safe Deposit Bank because it did not make loans or take deposits. Individual institutions (number in parentheses) in the following holding companies are consolidated and counted as one institution: First Republic (41), MCorp (2), Texas American Bankshares (24), National Bankshares (9), Bank of New England (3), Southeast Bank (2), New Hampshire banks (7), First City (20), Merchant Bank (2), and Bridgeport (2). We discount the monthly cash flows using the Treasury yield curve prevailing at the date of failure. The yield curve is smoothed to generate a rate for the monthly maturity points using a cubic spline. Size groups are based on the book value of assets

***=Significantly different from Small at the 99 percent confidence level; **=at the 95 percent confidence level; *=at the 90 percent confidence level

+++=Significantly different from Medium at the 99 percent level; ++=at the 95 percent confidence level; +=at the 90 percent confidence level

Panel A: Calculation of Resolution Costs

	Less than $50 Million	$50 to $100 Million	$100 to $500 Million	$500 Million to $1 Billion	$1 to $5 Billion	Above $5 Billion
Number (000 included)	813	131	108	16	16	8
Book Value of Assets at Failure	20,225	70,043	211,723	601,843	1,974,036	13,857,698
Discovered Assets and Adjustments	183	551	4,187	15,981	162,913	3,094,715
Book Value of Assets	20,408	70,594	215,910	617,825	2,136,949	16,952,413
Book Value of Liabilities at Failure	(20,252)	(69,754)	(209,052)	(590,018)	(1,973,919)	(13,642,640)
Discovered Liabilities and Adjustments	61	348	23	(111)	(141,521)	(2,344,173)
Book Value of Liabilities	(20,191)	(69,405)	(209,030)	(590,129)	(2,115,441)	(15,986,813)
Book Value of Equity	217	1,188	6,881	27,696	21,508	965,600
Gain and (Loss) on Assets	(5,613)	(21,924)	(73,713)	(158,620)	(437,536)	(1,379,939)
Net Income/(Loss) from Assistance Agreements	(0)	0	112	(0)	(13,114)	(859,906)
Net Loss Sharing Expenses	(3)	0	(0)	(1,667)	(11,947)	(60,095)
Premium Paid to the Acquirer	(739)	(1,697)	(3,543)	(10,216)	(12,607)	(24,795)
Income from Assets	1,466	5,676	19,229	40,629	117,872	273,540
Loss on Assets	(4,889)	(17,946)	(57,915)	(129,874)	(357,332)	(2,051,196)
Premium Received from Acquirer	173	805	2,131	6,703	17,151	64,544
Direct Liquidation Expenses	(709)	(2,316)	(6,485)	(16,160)	(42,431)	(111,609)
Indirect Liquidation Expenses	(1,845)	(6,405)	(16,347)	(41,110)	(52,975)	(160,363)
Total Receivership Expenses	(2,554)	(8,721)	(22,832)	(57,270)	(95,406)	(271,973)
Total Resolution Costs	(7,053)	(24,673)	(71,736)	(152,745)	(414,080)	(1,293,024)

Panel B: Mean and (Median) of the Components of Total Resolution Cost, Discounted, as a Percent of Book Value of Assets

	Small Less than $100 Million		Medium $100 Million to $1 Billion		Large Above $1 Billion			
Book Value of Equity	1.03	(1.68)	3.34 ***	(3.72) **	2.49		(4.51)	
Loss on Assets	-23.32	(-22.03)	-25.27	(-23.78)	-15.98 ***	+++	(-12.68) *	+++
Premiums Received from Acquirer	1.41	(0.72)	1.46	(1.08)	1.44		(0.87)	
Direct Liquidation Expenses	-3.59	(-3.49)	-3.06 **	(-2.98) ***	-1.40 ***	+++	(-1.39) ***	+++
Total Receivership Expenses	-12.38	(-10.07)	-10.99	(-8.15) ***	-3.46 ***	+++	(-2.93) ***	+++
Total Resolution Costs	-31.89	(-30.24)	-31.89	(-30.32)	-16.17 ***	+++	(-17.79) ***	+++

Table 6
Resolution Costs by Legislative Period
BIF-Insured Sample
(Average, $000 omitted unless otherwise noted)

Source: FDIC General Ledger, Receivership Financial Statements
The sample includes all BIF-Insured banks that failed between 1986 and 2007 and were inactivated before December 2004. The sample also include threee institutions that failed in or before 1991 that were still active as of 2004. The sample excludes Meriden Trust and Safe Deposit Bank and Private Bank and Trust because they did not make loans or take deposits. Individual institutions (number in parenthses) in the following groups are consolidated and counted as one institution: First Republic (41), MCorp (20), Texas American Bankshares (24), National Bankshares (9), Bank of New England (3), Southeast Bank (2), New Hampshire banks (7), First City (20), Merchant Bank (2), Bridgeport (2) and Eastland (2). We discount the monthly cash flows using the Treasury yield curve that was prevailing on the date of failure. The yield curve was smoothed to generate a rate for the monthly maturity points using a cubic spline.
***=Significantly different than Pre-FIRREA at the 99 percent level, **=95 percent level, *=90 percent level.
+++=Significantly different than FIRREA at the 99 percent level, ++=95 percent level, +=90 percent level.

Panel A: Calculation of Resolution Costs

	Pre-FIRREA 1986-1988		FIRREA 1989-1991		FDICIA 1992-2005	
Number (000 included)	582		337		173	
Book Value of Assets at Failure	132,781		240,328		244,456	
Discovered and Adjusted Assets	5,078		69,647		10,790	
Book Value of Assets		137,859		309,975		255,246
Book Value of Liabilities at Failure	(133,266)		(235,437)		(239,544)	
Discovered and Adjusted Liabilities	3,404		(64,251)		(7,230)	
Book Value of Liabilities		(129,862)		(299,688)		(246,774)
Book Value of Equity		7,997		10,287		8,473
Gain and (Loss) on Assets		(20,072)		(52,166)		(38,799)
Net Income/(Loss) from Assistance Agreements		(11,500)		(567)		(1,115)
Net Loss Sharing Expense		0		(1,385)		(1,352)
Premium Paid to Acquirer		(1,383)		(2,526)		(655)
Income from Assets		3,074		14,220		12,458
Loss on Assets		(29,881)		(42,425)		(29,464)
Premium Received from the Acquirer		423		1,217		4,151
Direct Liquidation Expense		(1,390)		(5,649)		(4,033)
Indirect Liquidation Expense		(7,264)		(4,207)		(7,212)
Total Receivership Expenses		(8,654)		(9,855)		(11,245)
Total Resolution Costs		(30,115)		(40,777)		(28,085)

Panel B: Mean and (Median), Components of Total Resolution Cost, Discounted, as a Percent of Book Value of Assets at Failure

	Pre-FIRREA 1986-1988		FIRREA 1989-1991		FDICIA 1992-2005		
Book Value of Equity	0.68	(1.30)	1.24 ***	(1.55)	3.63 ***	+++	(4.25) *** +++
Loss on Assets	-26.28	(-25.67)	-21.44 ***	(-20.25)	-17.43 ***	+++	(-16.15) *** +++
Premiums Received from Acquirer	1.42	(0.75)	1.13 ***	(0.53)	1.86 *	+++	(1.13) * +++
Direct Liquidation Expenses	-3.55	(-3.52)	-3.36	(-3.19)	-3.53		(-3.15)
Total Receivership Expenses	-15.14	(-12.75)	-7.43 ***	(-6.92)	-10.49 ***	+++	(-8.82) *** +++
Total Resolution Costs	-39.82	(-37.96)	-26.96 **	(-24.45)	-22.92 ***	++	(-21.26) *** +

Table 7
Resolution Costs by Fraud
BIF-Insured Sample
(Discounted, Average, $000 omitted unless otherwise noted)

Source: FDIC General Ledger, Receivership Financial Statements

The sample includes all BIF-Insured banks that failed between 1986 and 2007 and were inactivated before December 2004. The sample also includes three institutions that failed in or before 1991 that were still active as of year-end 2004. The sample excludes Meriden Trust and Safe Deposit Bank and Private Bank and Trust because they did not make loans or take deposits. Individual institutions (number in parenthses) in the following groups are consolidated and counted as one institution: First Republic (41), MCorp (20), Texas American Bankshares (24), National Bankshares (9), Bank of New England (3), Southeast Bank (2), New Hampshire banks (7), First City (20), Merchants Bank (2), Bridgeport (2) and Eastland (2). We discount monthly cash flows using the Treasury yield curve that was prevailing on the date of failure. The yield curve is smoothed to generate a rate for the monthly maturity points using a cubic spline.

Fraud variables are available only from 1989 to 2007. The fraud variables are collected from internal data on failing bank cases.

***=Mean for the category is significantly different than for No Fraud at the 99 percent level, **=95 percent level, *=90 percent level.

Panel A: Resolution Costs

	In Fraud Database		No Fraud		Fraud Primary Cause		Fraud Contributing Cause		Fraud Present	
Number (000 included)	608		476		38		109		132	
Book Value of Assets at Failure	297,699		359,799		67,418		64,803		73,760	
Discovered and Adjusted Assets	46,255		55,825		2,603		1,222		11,744	
Book Value of Assets		343,953		415,624		70,021		66,025		85,504
Book Value of Liabilities at Failure	(293,864)		(355,173)		(68,034)		(63,855)		(72,781)	
Discovered and Adjusted Liabilities	(34,281)		(41,126)		(150)		(31)		(9,597)	
Book Value of Liabilities		(328,145)		(396,299)		(68,184)		(63,886)		(82,378)
Book Value of Equity		15,808		19,325		1,837		2,138		3,126
Gain and (Loss) on Assets		(49,823)		(57,190)		(26,979)		(20,753)		(23,259)
Net Income/(Loss) from Assistance Agreements		(11,547)		(14,749)		0		0		0
Net Loss Sharing Expense		(1,152)		(1,297)		0		(316)		(632)
Premium Paid to Acquirer		(1,845)		(2,208)		(447)		(426)		(538)
Income from Assets		12,292		13,893		6,866		5,605		6,518
Loss on Assets		(52,076)		(61,550)		(20,560)		(15,889)		(17,911)
Premium Received from Acquirer		1,887		2,197		960		701		768
Direct Liquidation Expense		(4,664)		(5,312)		(2,245)		(2,003)		(2,330)
Indirect Liquidation Expense		(7,287)		(8,049)		(3,960)		(3,551)		(4,541)
Total Receivership Expense		(11,952)		(13,360)		(6,205)		(5,554)		(6,871)
Total Resolution Costs		(46,332)		(53,388)		(23,968)		(18,604)		(20,888)

Panel B: Mean and (Median) of the Components of Total Resolution Cost, Discounted, as a Percent of Book Value of Assets

	In Fraud Database		No Fraud		Fraud Primary Cause		Fraud Contributing Cause		Fraud Present	
Book Value of Equity	1.58	(2.22)	1.69	(2.19)	1.13	(2.69)	1.29	(2.32)	1.16	(2.29)
Loss on Assets	-21.13	(-19.49)	-20.85	(-19.41)	-23.74	(-21.34)	-21.50	(-19.33)	-22.17	(-21.18)
Premiums Received from Acquirer	1.37	(0.72)	1.26	(0.55)	1.96	(1.13) *	1.84 *	(1.13) **	1.72	(1.05) *
Direct Liquidation Expenses	-3.40	(-3.17)	-3.31	(-3.04)	-3.65	(-3.59)	-3.69	(-3.53)	-3.75 *	(-3.57) **
Total Receivership Expenses	-9.84	(-8.14)	-9.59	(-8.03)	-10.42	(-8.39)	-10.73	(-8.38)	-10.74	(-8.39)
Total Resolution Costs	-28.56	(-25.45)	-28.01	(-25.17)	-31.83	(-26.03)	-29.64	(-25.60)	-30.55	(-26.26)

Table 8
Time in Receivership and Duration
in Years
BIF-Sample

Source: FDIC General Ledger, Receivership Financial Statements

The sample includes all BIF-Insured banks that failed between 1986 and 2007 and were inactivated before December 2005. The sample also includes three institutions that failed in or before 1991 that were still active as of 2004. The sample excludes Meriden Trust and Safe Deposit Bank and Private Bank and Trust because they did not make loans or take deposits. The average time in receivership is the number of years from the d failure to the termination of the receivership. This calculation excludes the institutions in the sample that have not been terminated.

Duration is the sum of the ratio of the current cash flow to all cash flows times the time t that the cash flow occurred.

By Legislative Period

	Number	Average Time in Receivership	Median Time in Receivership	Gain/Loss on Disposition of Assets	Income from Assets	Direct Liquidation Expenses
All: 1986-2007	1,208	4.96	4.55	3.68	2.76	2.81
Pre-FIRREA: 1986-1988	663	4.90	4.41	3.87	3.34	2.91
FIRREA: 1989-1991	351	5.27	5.13	3.88	2.68	2.95
FDICIA: 1992-2007	194	4.61	3.92	2.89	2.41	2.26

By Resolution Type

	Number	Average Time in Receivership	Median Time in Receivership	Gain/Loss on Disposition of Assets	Income from Assets	Direct Liquidation Expenses
Deposit Payoff	231	5.81	5.44	4.18	3.07	2.84
Purchase and Assumption	780	5.27	5.08	3.58	2.71	2.81
Whole Bank Transactions	202	2.83	2.34	3.21	1.96	2.31

By Legislative Period and Resolution Type

	Number	Average Time in Receivership	Median Time in Receivership	Gain/Loss on Disposition of Assets	Income from Assets	Direct Liquidation Expenses
Deposit Payoff						
Pre-FIRREA: 1986-1988	152	5.94	5.66	4.56	3.21	2.91
FIRREA: 1989-1991	46	5.99	5.63	4.06	3.09	3.17
FDICIA: 1992-2007	32	4.93	4.38	2.98	2.52	2.23
Purchase and Assumption						
Pre-FIRREA: 1986-1988	397	5.21	4.92	3.55	3.45	2.92
FIRREA: 1989-1991	226	5.81	5.60	3.87	2.66	2.94
FDICIA: 1992-2007	153	4.61	3.92	2.87	2.40	2.26
Whole Bank Transactions						
Pre-FIRREA: 1986-1988	114	2.45	1.78	3.78	2.96	2.55
FIRREA: 1989-1991	79	3.30	3.56	2.71	1.52	2.07
FDICIA: 1992-2007	9	3.41	2.81	3.19	2.22	2.43

Table 9
Losses to Claimants
BIF-Insured Sample
(Average, $000 omitted)

Source: FDIC General Ledger and FDIC Failed Bank Cost Analysis (also reflected in the FDIC Historical Statistics on Banking)
The sample includes all BIF-Insured banks that failed between 1986 and 2007 and were inactivated before December 2004. The sample also includes three institutions that failed in or before 1991 that were still active as of 2004. The sample excludes Meriden Trust and Safe Deposit Bank because it did not make loans or take deposits. Individual institutions (number in parenthses) in the following holding companies are consolidated and counted as one institution: First Republic (41), MCorp (20), Texas American Bankshares (24), National Bankshares (9), Bank of New England (3), Southeast Bank (2), New Hampshire banks (7), First City (20), Merchant Bank (2), Bridgeport (2), and Eastland (2).
* Indicates that the calculation is an implied number. The assistance amount for some large transactions was calculated as a residual to balance to the loss number from the Failed Bank Cost Analysis.

Panel A: Claims and Recoveries		
Number (000 included)	1,092	
Total Resolution Costs, No Discounting (from Table 2)		(26,989)
FDIC Claim	(126,743)	
Recoveries on FDIC Claim	105,432	
Net (Income)/Loss, Assistance Agreements*	(6,481)	
Other Non-Cash Adjustments	1,667	
Loss on FDIC Claim		(26,124)
Other Claims	(6,150)	
Recoveries on Other Claims	4,492	
Loss to Other Claimants		(1,659)
Dividends to Stockholders		794
Total Resolution Costs		(26,989)

Panel B: Reconciliation of Loss on FDIC Claim to FDIC Loss per the Failed Bank Cost Analysis		
Loss on FDIC Claim		26,124
Reverse the Post Insolvency Interest Paid to the FDIC	336	
Reverse Accrued Interest Due to the Corporation	(2,242)	
Recovery from Secondary Insurance Funds	(21)	
Reverse Remaining Cross Guaranty Claim	(57)	
Accounting Adjustments	1,656	
Total Adjustments		(328)
FDIC Loss per the Failed Bank Cost Analysis		25,796

Table 10
Losses to Claimants by Resolution Method
BIF-Insured Sample
(Average, $000 omitted)

Source: FDIC General Ledger and FDIC Failed Bank Cost Analysis (also reflected in the FDIC Historical Statistics on Banking)

The sample includes all BIF-Insured banks that failed between 1986 and 2007 and were inactivated before December 2004. The sample also includes three institutions that failed in or before 1991 that were still active as of 2004. The sample excludes Meriden Trust and Safe Deposit bank and Private Ban they did not make loans or take deposits. Individual institutions (number in parenthses) in the following groups are consolidated and counted as one institution: First Republic (41), MCorp (20), Texas American Bankshares (24), National Bankshares (9), Bank of New England (3), Southeast Bank (2), New Hampshire banks (7), First City (20), Merchant Bank (2), Bridgeport (2) and Eastland (2). P&A includes purchase and assumption transactions where all deposits or insured deposits were passed to the acquirer. Payout/Transfers include payouts and insured deposit transfers were most or all of the a were retained in the receivership. Whole Bank transactions are transactions where most or all of the assets and liabilties are transferred to the acquirer. * Indicates that the calculation is an implied number. The assistance amount for some large transactions was calculated as a residual to balance to the loss number from the Failed Bank Cost Analysis.

***=Significantly different than Deposit Payoff at the 99 percent level, **=95 percent level, *=90 percent level.

+++=Significantly different than P&A at the 99 percent level, ++=95 percent level, +=90 percent level.

Panel A: Claims and Recoveries, Not Discounted

	Deposit Payoff		P&A		Whole Bank Transaction	
Number (000 included)	230		660		202	
FDIC Claim	(64,307)		(177,951)		(30,518)	
Recoveries on FDIC Claim	46,119		151,659		21,929	
Net (Income)/Loss, Assistance Agreements	52		(10,743)		7	
Other Non-Cash Adjustments	(1,429)		3,281		(81)	
Loss on FDIC Claim		(19,564)		(33,755)		(8,663)
Other Claims	(1,316)		(9,699)		(59)	
Recoveries on Other Claims	832		7,131		35	
Loss to Other Claimants		(484)		(2,568)		(24)
Dividends to Stockholders		0		1,313		0
Total Resolution Costs, accounting value		(20,048)		(35,010)		(8,687)

Panel B: Recoveries to Claimants as a Percent of the Claim

	Deposit Payoff	P&A	Whole Bank Transaction
FDIC			
Number of Observations	230	660	202
Mean	72.34	68.66	48.71
Median	74.01	71.34	44.68
Minimum	39.18	2.48	0.40
Maximum	110.32	204.11	101.81
Other Claimants			
Number of Observations	223	409	90
Mean	68.17	46.83	50.06
Median	69.78	59.00	68.61
Minimum	0.00	0.00	0.00
Maximum	109.90	207.53	100.00